MITSUBISHI MOTORS
TECHNICAL INFORMATION

# TECHNICAL SERVICE BULLETIN

| SUBJECT: | No: | TSB–04–54–003REV |
|---|---|---|
| **IMMOBILIZER SYSTEM INFORMATION UPDATE (2004 MODELS)** | DATE: | **August, 2004** |
| | MODEL: | **See Below** |

| | | | |
|---|---|---|---|
| **CIRCULATE TO**: | [X] GENERAL MANAGER | [X] PARTS MANAGER | [X] TECHNICIAN |
| [X] SERVICE ADVISOR | [X] SERVICE MANAGER | [ ] WARRANTY PROCESSOR | [X] SALES MANAGER |

***This bulletin replaces TSB–04–54–003, issued April 2004, and contains revised key blank part numbers, adds part numbers for valet key blanks, and revises some production dates. Revisions are indicated by a ▶ mark.***

## PURPOSE

This bulletin contains updated service information concerning the "Anti–theft engine immobilizer with security keys" feature on certain 2004 model year Mitsubishi vehicles.

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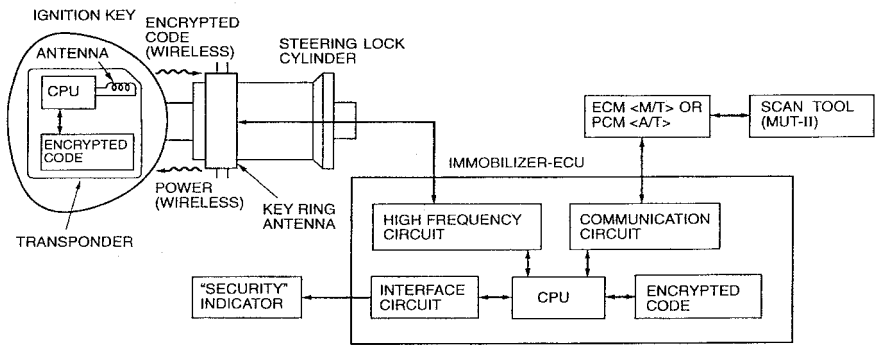
## AFFECTED VEHICLES

2004 Diamante
2004 Eclipse
2004 Eclipse Spyder
2004 Endeavor
2004 Galant
2004 Lancer Evolution
2004 Montero
2004 Montero Sport
2004 Outlander

*NOTE:*
*The 2004 model year Lancer ES/LS/OZ–Rally/Ralliart sedans and all Lancer Sportback vehicles DO NOT have the "Anti–theft engine immobilizer with security keys" feature.*

***This bulletin is for 2004 model year vehicles ONLY. Specifications and procedures for previous and subsequent years may differ.***

## BACKGROUND INFORMATION




Introduced during the 2000 model year, the "Anti–theft engine immobilizer with security keys" is designed to significantly reduce the possibility of car theft. The system immobilizes the vehicle if an invalid start is attempted. A valid start can only be accomplished (subject to certain conditions) by using a special transponder key "registered" to the ignition switch lock. For complete system description and operation summary, refer to the service manual for any of the listed affected vehicles.

Continued

**FILE UNDER:**
**Group 54 Chassis Electrical in the Dealer Service Information Binder** **(2776)**

Two or three keys are provided with each vehicle. For some vehicles, one of these keys may be a valet key. The master keys (black) fit all locks, whereas the valet key (gray) fits all locks except for the glove box and trunk. The immobilizer system allows up to 8 different key ID codes to be registered; a customer can possess up to 8 keys for a vehicle. If a customer requests extra keys, the new keys must be registered to operate with the system. There are two ways to register new keys, both of which are covered in this bulletin. New keys can be cut from a transponder key blank available from MMNA Parts *(refer to the **PARTS INFORMATION** section of this bulletin)*.

If keys are lost or if additional keys are needed, new immobilizer keys can be cut using the key code and a transponder key blank. New keys must be registered with a new ID code to operate properly with the Immobilizer ECU. Unless there are at least 2 original keys, all keys, both new and existing, must be registered using the MUT–III scan tool *(refer to **SECTION B, Immobilizer Ignition Key Registration Procedures** elsewhere in this bulletin)*.

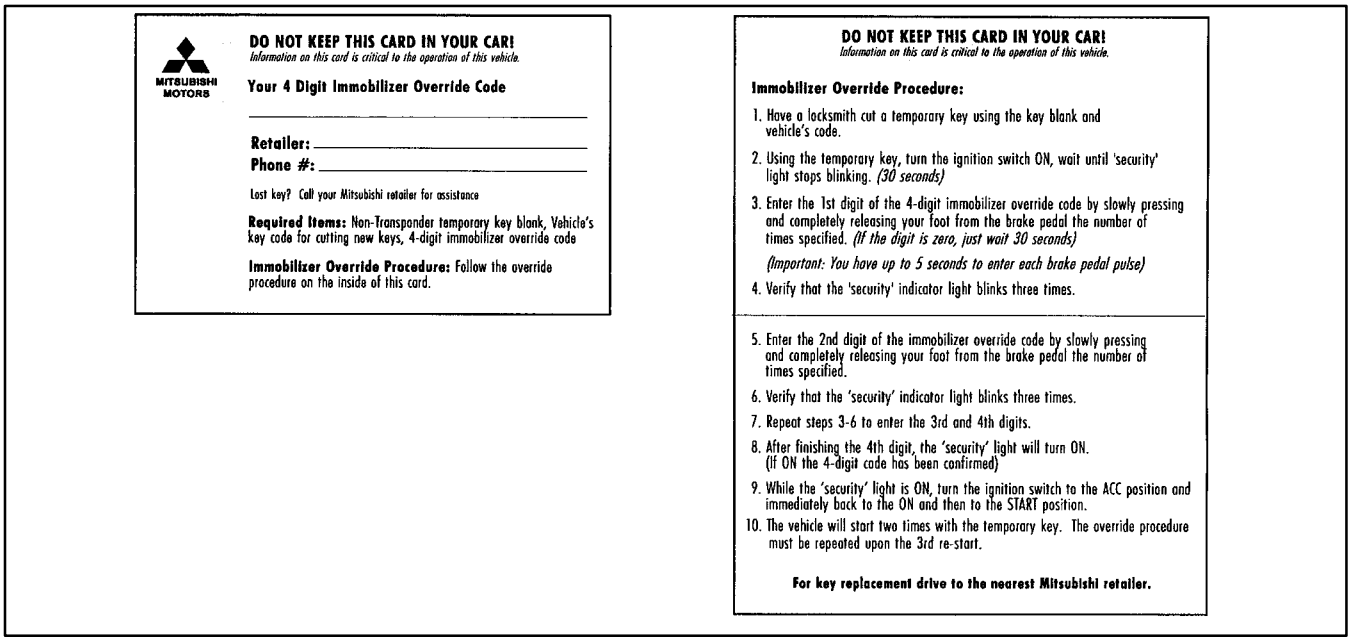
## PROCEDURES

### ▶ A. Immobilizer Override Function – 2004 Models (Eclipse, Eclipse Spyder & Early Production [built before February 2004] Endeavor ONLY)

*NOTE: Only the 2004 model year vehicles listed above have the Immobilizer Override feature. Other 2004 model year vehicles DO NOT have an override feature, and subsequent model year vehicles will not have this feature.*

The Immobilizer system on the above vehicles has an override feature so the vehicle may be started with a properly cut non–transponder key in the event all registered keys are lost. The system allows for 2 start attempts using the temporary key and the override code so the vehicle can be driven to the dealership where new transponder keys can be cut and registered with a new ID code.

OVERRIDE CODE
An override code is necessary to operate the override function. The customer should have a card presented to them at the time of purchase which has a record of the vehicle's override code.



MITSUBISHI MOTORS

**DO NOT KEEP THIS CARD IN YOUR CAR!**
*Information on this card is critical to the operation of this vehicle.*

**Your 4 Digit Immobilizer Override Code**

_____

**Retailer:** _____
**Phone #:** _____

Lost key? Call your Mitsubishi retailer for assistance

**Required Items:** Non-Transponder temporary key blank, Vehicle's key code for cutting new keys, 4-digit immobilizer override code

**Immobilizer Override Procedure:** Follow the override procedure on the inside of this card.

**DO NOT KEEP THIS CARD IN YOUR CAR!**
*Information on this card is critical to the operation of this vehicle.*

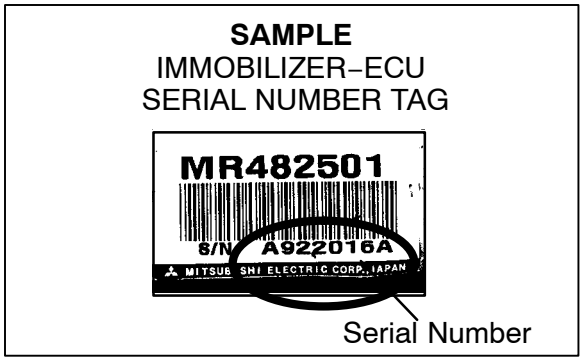
**Immobilizer Override Procedure:**

1. Have a locksmith cut a temporary key using the key blank and vehicle's code.
2. Using the temporary key, turn the ignition switch ON, wait until 'security' light stops blinking. *(30 seconds)*
3. Enter the 1st digit of the 4-digit immobilizer override code by slowly pressing and completely releasing your foot from the brake pedal the number of times specified. *(If the digit is zero, just wait 30 seconds)*
   *(Important: You have up to 5 seconds to enter each brake pedal pulse)*
4. Verify that the 'security' indicator light blinks three times.
5. Enter the 2nd digit of the immobilizer override code by slowly pressing and completely releasing your foot from the brake pedal the number of times specified.
6. Verify that the 'security' indicator light blinks three times.
7. Repeat steps 3-6 to enter the 3rd and 4th digits.
8. After finishing the 4th digit, the 'security' light will turn ON. (If ON the 4-digit code has been confirmed)
9. While the 'security' light is ON, turn the ignition switch to the ACC position and immediately back to the ON and then to the START position.
10. The vehicle will start two times with the temporary key. The override procedure must be repeated upon the 3rd re-start.

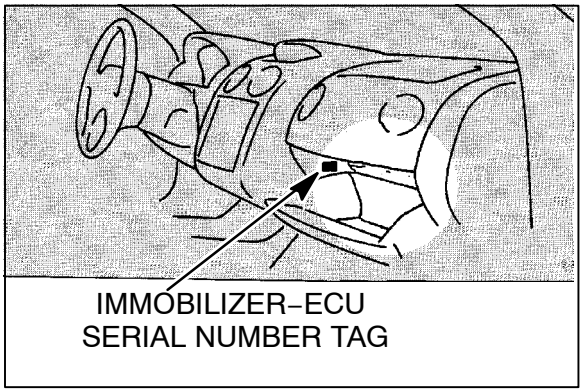
**For key replacement drive to the nearest Mitsubishi retailer.**

If the card shown above is not available, you can retrieve the override code by using the following procedures:

Continued




1. Locate the Immobilizer ECU serial number (S/N: ––––––––) on the vehicle. Record this serial number.




- ▶*All Eclipse, Eclipse Spyder, & early production Endeavor (built before February 2004)* – Serial number tag is found in the glove box area.

2. Using the Immobilizer ECU serial number, use *MEDIC* (or one of your dealer MDL systems) to access the Mitsubishi Dealer Link (MDL) and retrieve the Immobilizer Override Code number. Record this code. With this code, you can now proceed with the procedures for starting the vehicle using the Immobilizer Override code. It is suggested that you give the customer this code in case it is needed again in the future.

## OVERRIDE PROCEDURES

### STARTING THE ENGINE WITH A NON–TRANSPONDER KEY

(Eclipse, Eclipse Spyder, and Early Production Endeavor ONLY)

For procedures for starting the engine with a non–transponder key using the Immobilizer Override Code, refer to the customer information card included in the glove box of each immobilizer equipped vehicle. The card is shown on the previous page of this bulletin. If this card is unavailable, refer to the Immobilizer Override Procedures in TSB–03–54–007 for 2003 model year vehicles. The 2004 Eclipse, Eclipse Spyder, and early production 2004 Endeavor immobilizer system's override function is the same as the 2003 model year system.

*NOTE: 2004 model year vehicles other than the models listed above, DO NOT have the immobilizer override function.*

Continued

## B. Immobilizer Ignition Key Registration Procedures

This section contains procedures for registering ignition keys for the electronic immobilizer system found on certain 2004 model year Mitsubishi vehicles.

- ENCRYPTED CODE REGISTRATION METHOD:
  The ENCRYPTED CODE REGISTRATION METHOD which requires the use of the MUT−III scan tool and the vehicle−specific password, should be used when none or only one of the previously registered transponder keys is available for re−registration or if any previously registered key(s) are lost or stolen and you are programming all new keys.
- ADDITIONAL KEY REGISTRATION METHOD:
  For 2002−04 model years, the Immobilizer ECU will allow registration of additional ignition keys using the new ADDITIONAL KEY REGISTRATION METHOD. By using this method, the scan tool and a password are not needed if at least TWO originally registered keys are available.

  *NOTE: If you have two registered keys available, but other key(s) are **lost** or **stolen**, it is recommended that you use the ENCRYPTED CODE REGISTRATION METHOD to re−register all keys.*

### (1) ENCRYPTED CODE REGISTRATION METHOD Using Scan Tool (ONE OR NO REGISTERED KEYS ARE AVAILABLE OR KEY(S) OR LOST OR STOLEN)

Required Special Tool: MB991956 (MUT−III Scan Tool/Laptop).

**⚠ CAUTION**

**Because registering the encrypted codes is done after all previously-registered codes have been erased, you must have available all keys that have previously been registered to the vehicle.**

If the ignition key, Immobilizer-ECU, ECM* <M/T> or PCM* <A/T> is replaced or an ignition key is added, encrypted codes of all the ignition keys must be registered. (A maximum of eight different ignition keys can be registered.)

Moreover, when the immobilizer-ECU has been replaced, you will need to use the scan tool to register the immobilizer-ECU and input the vehicle password (secret code).

POINTS TO NOTE DURING OPERATION

1. If none of the functions can be used, check the diagnostic trouble codes and, after carrying out any necessary repairs, repeat the operation.
2. If an incorrect password for key registration is input five times in a row, the immobilizer-ECU judges that an unauthorized operation is being attempted. Start-prevention mode will be set, and engine operation will stop, and all special functions will be disabled.

   If the ignition switch is turned to “ON” position and left in that position for approximately 20 minutes, “Unauthorized operation, start-prevention mode” will be cancelled.

Continued

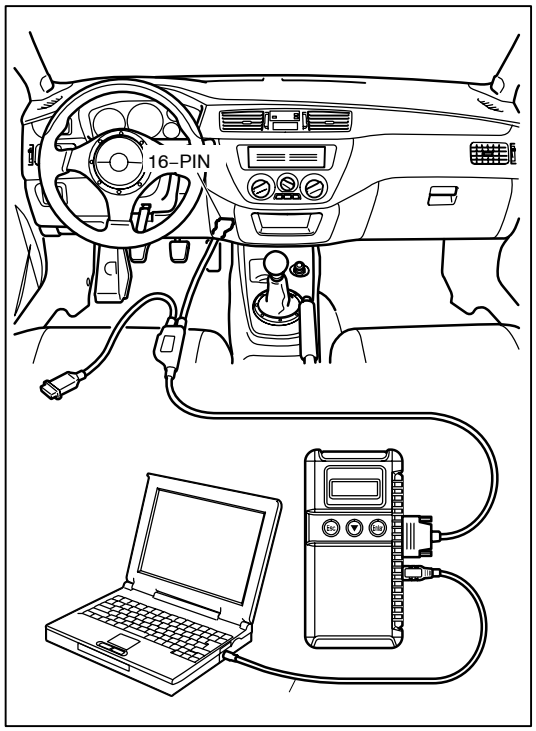
KEY REGISTRATION USING **MUT–III** (LAPTOP PC) SCAN TOOL – ENCRYPTED CODE METHOD

**⚠ CAUTION**

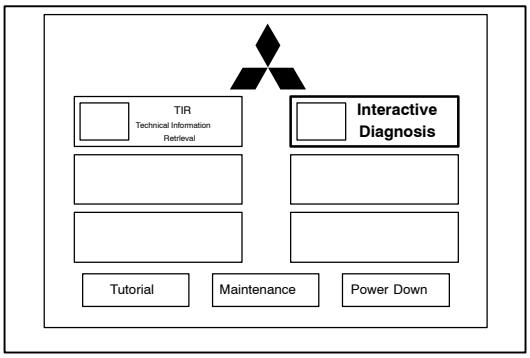
**To prevent damage to the scan tool, always turn the ignition switch to "LOCK" (OFF) position before connecting or disconnecting the scan tool.**

*NOTE:*

- *Before registration, check that no DTC is set. If a DTC is set, resolve the problem beforehand.*
- *Using the key ID register function will cause all previously–set key IDs to be erased from the immobilizer ECU. All keys need to be registered. Those which have been registered before should be on hand before using this function.*
- *If registering more than one key, do not disconnect the scan tool halfway through the registration process.*
- *After all keys are registered, make sure the engine can be started with all the new registered keys. If the engine will not start, refer to Immobilizer System diagnosis in Group 54 of the vehicle service manual.*




1. Connect the MUT–III scan tool MB991956 to the data link connector.
2. Turn the ignition switch to the "ON" position.




3. Select "Interactive Diagnosis" from the start–up screen.

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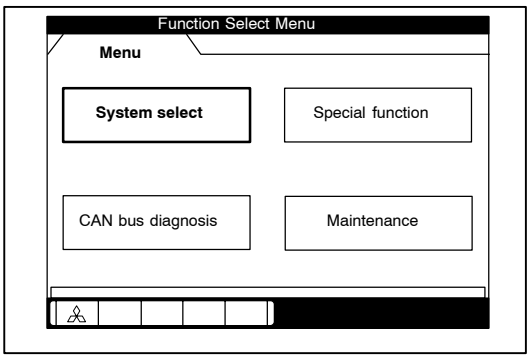
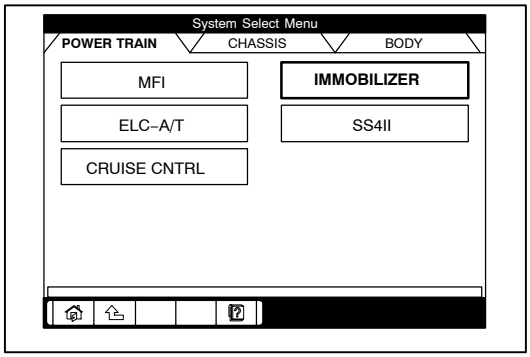
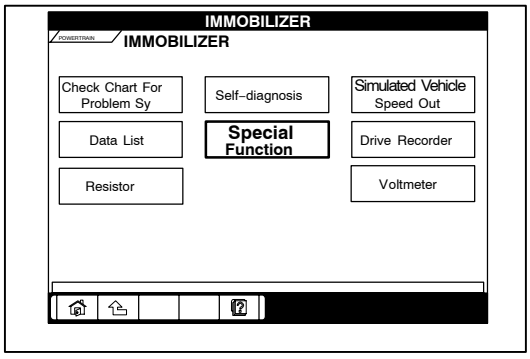


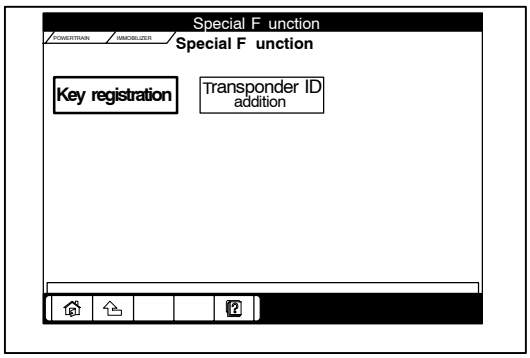

4. Select “System select”.




5. Choose “IMMOBILIZER” from the “POWER TRAIN” tab.




6. Choose “Special Function” from the “IMMOBILIZER” screen.




7. Choose “Key registration” from the “Special Function” screen.

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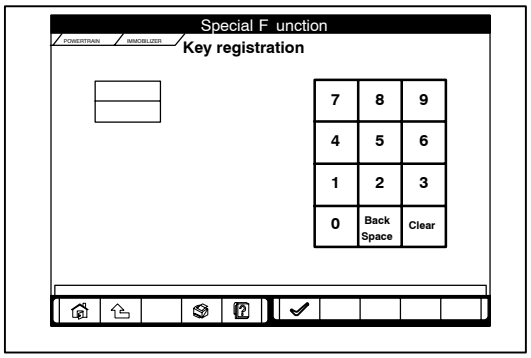
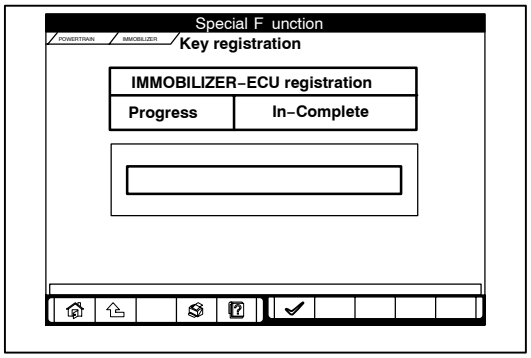



8. Input the 4–digit password (NOT the Immobilizer Override Code), then click the check mark icon. Each vehicle has an assigned password which can be found by accessing the Mitsubishi Dealer Link (MDL) either through *MEDIC* or from one of your dealership's MDL systems:
   - ***MEDIC***
     Click or touch the MITSUBISHI DEALER LINK button. When the menu page appears, click on: Service –> Systems –> Vehicle Information –> Key Register Password.
   - **MDL**
     Click on: Service –> Systems –> Vehicle Information –> Key Register Password.




9. If the key ID was registered successfully, "Progress" indication will turn active (gray). Then the registration process completes. If the key ID failed to be registered, "In–Complete" indication will turn active (gray).

10. The number of keys currently registered will be displayed. To register an additional key, replace the ignition key with the next key to be registered within five seconds. The Key ID registration screen will display, then register another key.

    *NOTE: A maximum of eight keys can be registered to a vehicle.*

11. This completes the registration operation. Turn the ignition switch to "LOCK" (OFF) and leave it off for approximately ten seconds.

12. Check that the engine can be started with ALL of the registered ignition keys.

13. Check that the immobilizer system DTC and MFI system DTC did not set.

14. If no DTC is shown, terminate the MUT–III.

15. Turn the ignition switch to "LOCK" (OFF).

16. Disconnect the MUT–III scan tool.

Continued

## (2) REGISTRATION OF ADDITIONAL KEYS WITH SCAN TOOL

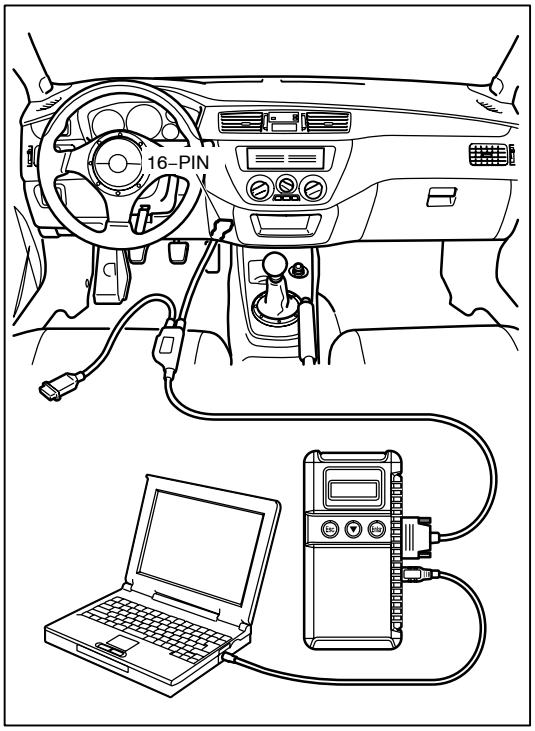
REGISTRATION OF ADDITIONAL KEYS USING SCAN TOOL MB991956 (**MUT–III**)

An additional key can be registered with the scan tool while keeping all existing key data.

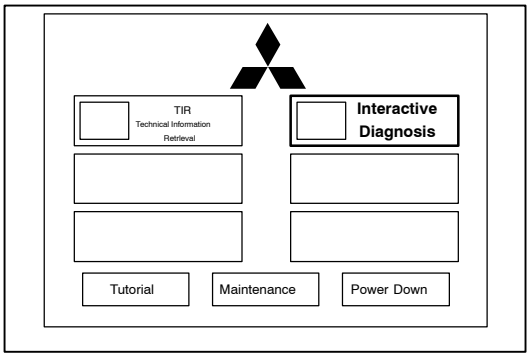
**⚠ CAUTION**

**To prevent damage to the scan tool, always turn the ignition switch to "LOCK" (OFF) position before connecting or disconnecting the scan tool.**

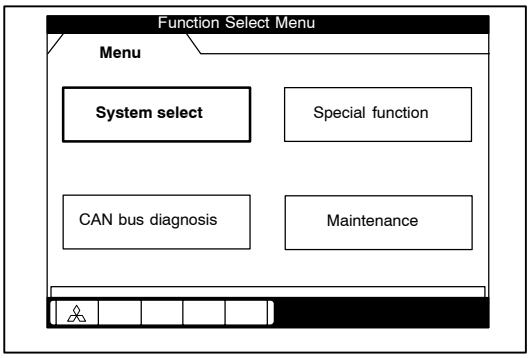
*NOTE: To register additional keys with the scan tool, two registered keys must be available.*




1. Connect the MUT–III scan tool to the data link connector.
2. Turn the ignition switch to the "ON" position.




3. Select "Interactive Diagnosis" from the start–up screen.




4. Select "System select".

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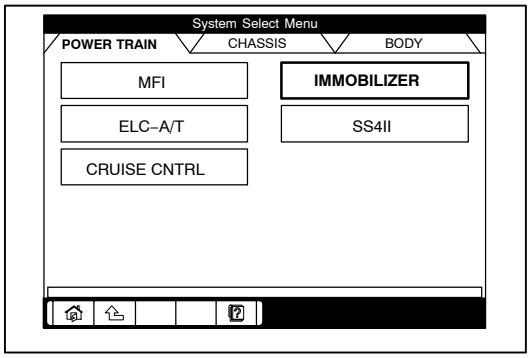
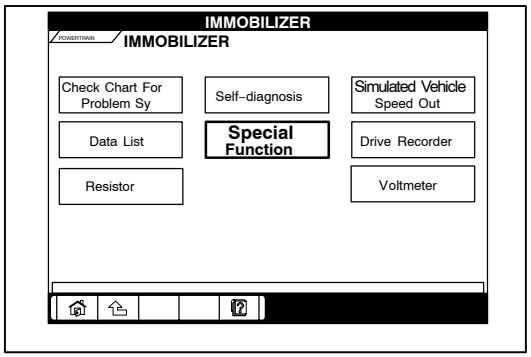
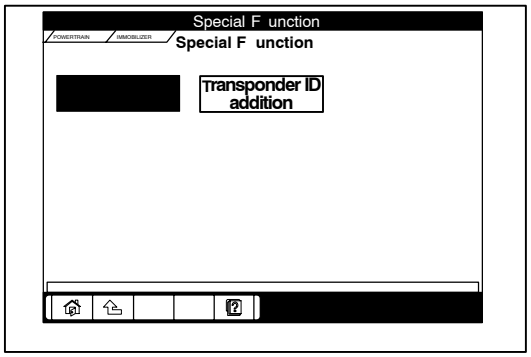


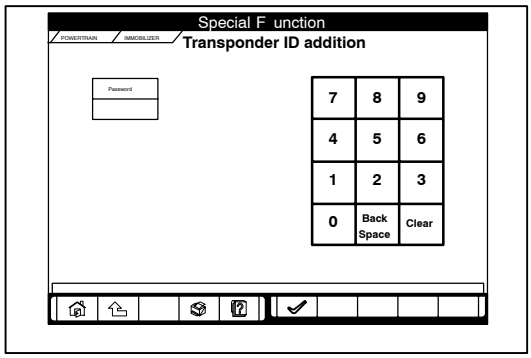

5. Choose “IMMOBILIZER” from the “POWER TRAIN” tab.




6. Choose “Special Function” from the “IMMOBILIZER” screen.




7. Choose “Transponder ID addition” from “Special Function” screen.




8. Input the password on the “Transponder ID addition” screen, and then click the check mark icon.

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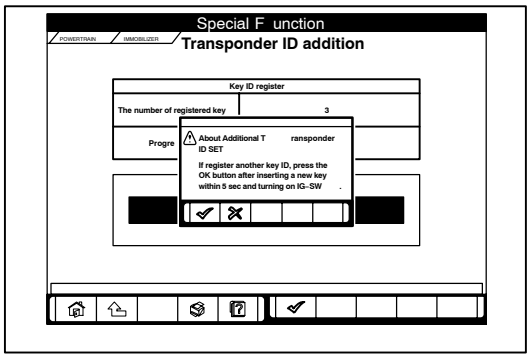
Special F unction
POWERTRAIN
IMMOBILIZER
Transponder ID addition
Key ID register
The number of registered key
3
Progre
About Additional T ransponder ID SET
If register another key ID, press the OK button after inserting a new key within 5 sec and turning on IG-SW .

9. Follow the information on the screen. If an additional registration is made successfully, the screen will ask if another key is registered or not. If the third ignition key is registered, remove the key, which has been registered. Then insert the third key within five seconds, and then turn it to the ON position.

10. Register the additional ignition key according to the steps above. The number of the registered ignition keys are shown on “The number of registered key” screen.

    *NOTE: A maximum of eight keys can be registered.*

11. This completes the registration operation. Turn the ignition switch “LOCK” (OFF) and leave it off for approximately ten seconds.

12. Check that the engine can be started with each of the registered ignition keys.

13. Check that the immobilizer system DTC and MFI system DTC did not set.

14. If no DTC is shown, terminate the MUT–III.

15. Turn the ignition switch to “LOCK” (OFF) position.

16. Disconnect MUT–III scan tool.

**(3) ADDITIONAL KEY REGISTRATION METHOD WITHOUT SCAN TOOL AND PASSWORD (AT LEAST TWO [2] REGISTERED KEYS MUST BE AVAILABLE)**

For 2002 through 2004 model years, the Immobilizer ECU will allow registration of additional ignition keys using the new ADDITIONAL KEY REGISTRATION METHOD. By using this method, the MUT–III scan tool and a password are not needed if at least TWO originally registered keys are available.

**⚠ CAUTION**

*For customer security, if any originally registered key is lost or stolen, the current MUT–III scan tool Encrypted Code key registration procedures should be used to register new keys and re–register the remaining original key(s), even though two original keys might be available.*

*NOTE:*

*At least TWO originally registered keys must be available to use the following procedures.*

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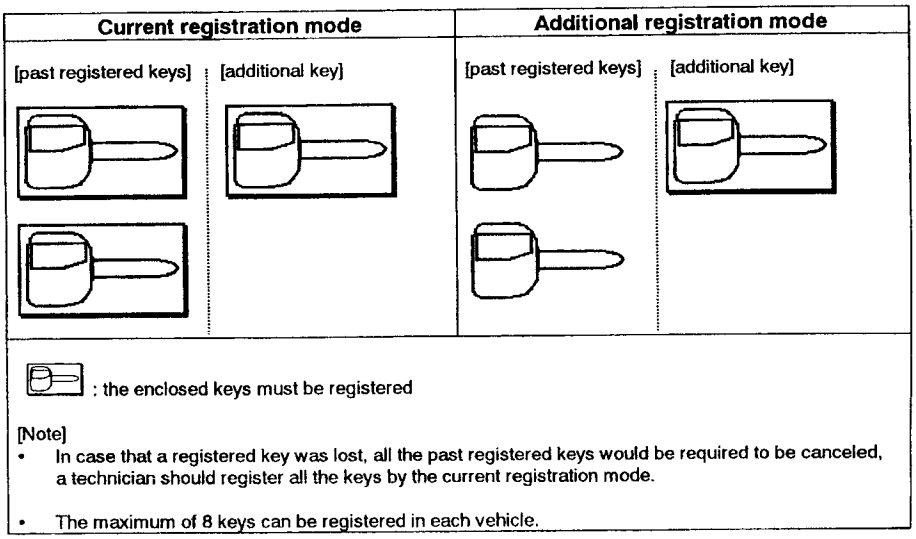


1. Turn the ignition switch ON with the first key (key–A). This key must be one of the originally registered ignition keys.

2. If the first key is correctly registered, the Immobilizer–ECU will go into waiting status for the second key (key–B). The ignition must be in the ON position with key–A inserted for at least 5–seconds for the ECU to go into waiting status.

3. Turn the ignition switch to OFF, remove key–A, then insert key–B. Turn the ignition switch to ON, using key–B within 7–seconds.
   *NOTE: Key–B must be an originally–registered key. If there is no second originally registered key, refer to section B (1), ENCRYPTED CODE REGISTRATION METHOD, of this bulletin or the appropriate service manual and register all keys using the current scan tool/password method.*

4. If both key–A and key–B are correctly registered, the Immobilizer indicator lamp will blink twice. This signals that the Immobilizer–ECU has entered the ADDITIONAL KEY REGISTRATION MODE.

5. Turn the ignition switch to OFF. Insert the new key to be registered into the ignition switch and turn the switch ON within 7–seconds. The new key is now registered to the vehicle. The indicator lamp will illuminate for 3–seconds to signal the new key is registered. If an error occurs, the indicator lamp will blink 3–times.
   *NOTE: Key registration must be completed within 30–seconds after the indicator lamp stops blinking.*

6. To register more keys, repeat step 5. A maximum of eight (8) keys can be registered to a vehicle.

7. After all keys are registered, start the engine with each key to make sure all keys are registered properly.

### Immobilizer Key Registration Reference Table

| The new key condition | Additional key registration | Additional key registration mode | Indicator | |
|---|---|---|---|---|
| | | | Action | Timing |
| Not registered key | OK | Continue | Turn on for 3 seconds | When the key has registered. |
| Registered key | NO | Continue | Turn on for 3 seconds | When the registered key is detected. |
| Read error | NO | Continue | Blinks three times | When the read error is detected. |

Continued

*ADDITIONAL NOTES:*

- *ADDITIONAL KEY REGISTRATION MODE will be cancelled if any of the following occur:*
  - The ignition switch is kept ON for over 30–seconds.
  - When the engine control relay is OFF
  - The Immobilizer ECU starts communication with the scan tool.
- Any newly registered key can start the engine only after that key turns the ignition switch OFF and the engine control relay is OFF. Turning the ignition switch ON again, will then allow the engine to start with the new key.
- The Immobilizer Override function does not operate when the Immobilizer–ECU is in key registration mode.

## PARTS INFORMATION

Transponder key blanks are not all the same. Make sure you have the correct key blank for the model and year of the vehicle being serviced. Key blanks for some vehicles may appear the same, but may not work for other vehicles. Check CAPS for the correct part number before cutting and/or registering a new key. Key blanks for 2000–01 immobilizer equipped vehicles will not work for 2002 and subsequent model year vehicles.

Using the wrong transponder key blank will cause fault codes to set in the PCM.

KEY BLANKS FOR 1999 AND EARLIER MODEL YEAR VEHICLES AND KEY BLANKS FOR 2002–04 LANCER (ES, LS, OZ Rally, Ralliart), 2004 LANCER SPORTBACK, 2000–02 MIRAGE, AND 2003 OUTLANDER ARE **NOT** TRANSPONDER EQUIPPED AND CANNOT BE REGISTERED FOR IMMOBILIZER EQUIPPED VEHICLES.

*NOTE:*
*To check a key to make sure it can be registered, use the procedures in TSB–02–54–004*

| Transponder Key Blank Part Number | Model Application (All are 2004 Model Year) |
|---|---|
| ▶MR587235<br>▶MR587237 (Valet) | Eclipse & Eclipse Spyder, Endeavor (early production, up to 1/31/04) |
| ▶MR587315<br>▶MR587317 (Valet) | Diamante, Montero, & Montero Sport |
| MR587430 | Lancer Evolution |
| MN141307 | Outlander |
| ▶MN141060<br>▶6370A124 (Valet) | Galant, Endeavor (late production, beginning 2/1/04) |

## WARRANTY INFORMATION

This bulletin is for information only. No special warranty procedures apply.
**Override procedures, key cutting/key registration, and towing as a result of lost keys are NOT warranty covered items.**

Mitsubishi Motors North America, Inc.